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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,842

10/29/2003

Joung-Hyun Yeo

Q77421

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10/13/2006

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EXAMINER

NGUYEN, JIMMY H

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,842

Applicant(s)

YEO, JOUNG-HYUN

Examiner

Jimmy H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,11 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 2-10 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 08/31/2006.

Claims 1-16 are currently pending in the application. An action follows below:

Claim Objections

2. Claim 10 is objected to because of the following informalities: "further comprising: a scaler positioned" in lines 1-2 must be changed to -- wherein said scaler is positioned --, because there is sufficient antecedent basis for this limitation in the claim. See claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 11 and 13-16 are rejected under 35 U.S.C. 102(e) as being unpatentable over Toda et al. (US 6,650,307 B1), hereinafter Toda.

As per claims 1, 11 and 14, the claimed invention reads on the Toda reference as follows: Akiyama discloses a plasma display apparatus with low power consumption and high speed response (see Fig. 8 and Abstract) comprising **a plasma display panel (1)** driven by a discharge sustain voltage in the form of pulses (best seen Fig. 2); **an analog-digital converter** (a circuit comprising an A/D converter for receiving an analog image signal (see col. 1, lines 45-51, col. 5, lines 39-43) and a gain control circuit 21 (see Fig. 8)) digitizing an image signal and producing a digitized image signal; **a plasma display panel drive unit** (an unit comprising at least elements

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2-4, 12 and 13, see Fig. 8) converting the digitized image signal into scanning pulses and data pulses for driving the plasma display panel and outputting the scanning and data pulses to the plasma display panel; **a power supply unit** (a portion of a power source 5 for generating signals provided to drivers 2 and 3 as shown in Fig. 8) supplying the discharge sustain voltage to the plasma display panel drive unit; and **a controlling unit** (a unit comprising elements 22, 23 and a portion of a power source 5 which detects and determined the voltage and current values, see Fig. 8 and col. 6, lines 3-11) adjusting an output gain of the analog-digital converter in response to a variation of the discharge sustain voltage of the power supply unit (see col. 6, lines 3-11). Accordingly, Toda discloses all the claimed limitations of these claims except that Toda does not expressly teaches a scaler for processing or converting the gain-adjusted digitized image signal to an image size appropriate to the plasma display panel.

However, Official Notice is taken that both the concept and the advantages of providing a scaler in the plasma display apparatus, for processing or converting the digitized image signal to an image size appropriate to the plasma display panel, are well-known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the scaler in the plasma display apparatus of Toda, because this would allow the user to view an input image signal having any size, on the display apparatus.

As to claim 13, Toda expressly teaches that when a luminance level of the digitized image signal increases, the power consumption and the gain of the input image signal are reduced (see col. 7, lines 8-15), thereby reducing the discharge sustain voltage.

As to claims 15 and 16, as discussed in the rejection to claim 11 above, Toda discloses all the claimed limitations of this claim except that Toda does not expressly teaches a decoder unit receiving an externally inputted image signal, converting it into the image signal and outputting the image signal, and outputting the image signal to the analog-digital converter for digitizing, as presently claimed. However, Official Notice is taken that both the concept and the advantages of providing a decoder unit in the plasma display apparatus, for receiving an externally inputted image signal, converting it into the image signal and outputting the image signal, and outputting the image signal to the analog-digital converter for digitizing, are well-known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the decoder unit in the plasma display apparatus of Toda, because this would allow the display apparatus to receive a plurality of externally inputted image signals from a plurality of image sources, thereby allowing a user to view a desired image on the display.

Allowable Subject Matter

5. Claims 2-10 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Additionally to claim 10, this claim must be written to overcome the claim objection above.

6. The following is a statement of reasons for the indication of allowable subject matter: the claimed invention is directed to a plasma display apparatus with low power consumption and high speed response. Dependent claim 2 identifies the uniquely distinct features, “a voltage sensing unit ... on the comparison results” (see lines 3-8 of claim 1). Dependent claim 12

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identifies the uniquely distinct features, “wherein the step of adjusting the output gain comprises... on the comparison results” (see lines 2-7 of claim 12). The closest prior art, Toda as discussed above, either singularly or in combination, fails to anticipate or render the above underlined limitations obvious.

Response to Arguments

7. Applicant's arguments filed 08/31/2006 have been fully considered but they are not persuasive.

As to claim 1, Applicant argues that Toda fails to teach a controlling unit adjusting an output gain of the analog-digital converter in response to a variation of the discharge sustain voltage of the power supply, see page 7, lines 14-16, of the amendment. Examiner disagrees because as discussed in the rejection above, Toda expressly teaches that a controlling unit, which comprises elements 22, 23 and a portion of a power source 5, **detects the values of the voltage** and current from the power source 5 and determines the gain coefficient for adjusting an output gain of the gain control unit 21 (i.e., for the claimed analog-digital converter), in response to the detected values of the voltage of the power supply unit (i.e., in response to a variation of the discharge sustain voltage of the power supply), see col. 6, lines 3-11. Applicant further argues “In effect, the Examiner combines a description of the background art with an embodiment of Toda ... 1991)”, see lines 6-11. Examiner disagrees because Toda expressly discloses the invention of Toda based on (modified from) the typical PDP display apparatus; therefore, Toda only discusses different parts, see col. 5, lines 39-43.

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As to claim 11, Applicant argues that Toda fails to disclose adjusting an output gain of the digitized image signal in response to a variation of the discharge sustain voltage. See the response to Applicant's argument with respect to claim 1 above.

With respect to the well-known features, "a scaler" and "a decoder", Applicant requests examiner to provide art. Examiner directs the Applicant to Fig. 5 and the specification, page 5, last two paragraphs, which disclose a conventional plasma display apparatus comprising a decoder unit (30) and a scaler (50). Note that the Applicant's Admitted Prior Art is merely exemplary of the well-known use of a scaler and decoder in the plasma display apparatus.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHN
October 9, 2006



Jimmy H. Nguyen
Primary Examiner
Technology Division: 2629